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REFERENCE BOOK

Not to be taken from the Library

THE "BUNCHING" PROBLEM

Several weeks ago we published a pamphlet entitled "You Write Our Schedules!" In it we attempted to describe the physical make-up of our Schedule Department, how it functions, what duties it is responsible for, and what kind of a job it is doing. We also explained what our patrons can do to help both themselves and their Railway in providing a more comfortable, more convenient, and faster ride.

Reader Response

Evidently many of you read the booklet carefully for we immediately received numerous letters and telephone calls, some complimenting us on the job we were doing and others telling what we were not doing.

We appreciate both kinds for they tell us that you are actually interested in the "behind-the-scenes" operations of the Railway; particulars that are not generally too interesting from the passenger's standpoint.

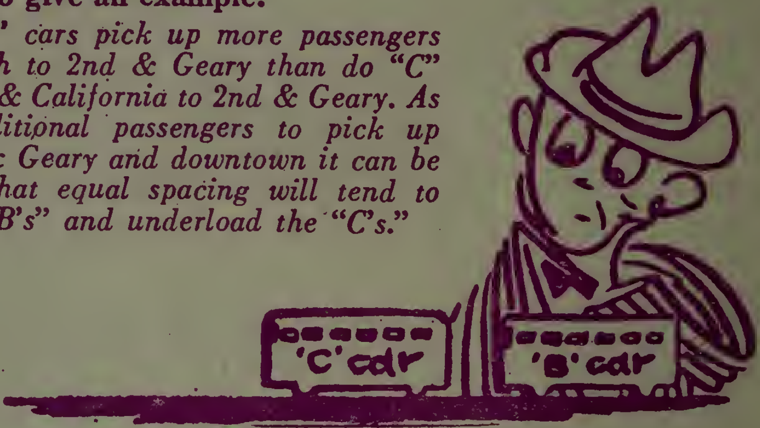
For instance, one lady asked us why it is that after waiting for a bus or streetcar for five or ten minutes, two will arrive within the space of several minutes.

Equal Spacing vs. Good Spacing

Much has been said on this subject of what our patrons like to call "bunching" and it is recognized that San Franciscans are very "spacing conscious." Upon close examination, however, and looking at the problem objectively, it may be seen that equal spacing of cars and busses may not necessarily mean good spacing of service. The two are not identical.

To give an example:

Inbound "B" cars pick up more passengers from the beach to 2nd & Geary than do "C" cars from 2nd & California to 2nd & Geary. As there are additional passengers to pick up between 2nd & Geary and downtown it can be readily seen that equal spacing will tend to overload the "B's" and underload the "C's."



A good schedule will therefore provide for a shorter space ahead of the "B's" and a longer space ahead of the "C's" to help equalize loading.

Unit Staggering

There are other instances just as applicable where some staggering of units is very much warranted and considered in the trade as "good scheduling practice," but this is a somewhat involved subject and space does not permit its inclusion here.

This, however, definitely is not meant to be an excuse for wholesale bunching of equipment. This is occasionally unavoidable but certainly not condoned. Examples of unavoidable causes of bunching would include accidents and severe traffic congestion.

A Vicious Cycle

Occasionally conditions beyond the control of your transit management result in a bus or streetcar getting more than its normal load of passengers, for instance an unexpected school dismissal. Loading extra passengers takes additional time causing the vehicle to run late. Because the vehicle is now operating on a longer headway more passengers accumulate at loading zones taking more time to board which in turn slows the whole operation even further so that the following cars eventually catch up to their leader and the condition occurs that is popularly known as "bunching."

Thus, it can be seen that the slightest deviation in schedule can set up a vicious cycle which, in some cases, can only be effectively remedied by the operator disregarding his "lay-over time" at the terminal or by a line inspector "switching back" a vehicle before the completion of its run.

Running "Sharp"

Man failure can also cause irregular loading and bunching. For example, take the case where coaches are scheduled to pass a given point every three minutes and an operator runs 1½ minutes ahead of time. This cuts his load about 50% and in addition shoves an additional 50% load over the regular quota onto the following coach! Thus the next coach is subjected to a 150% increase over his normal passenger volume, usually resulting in delay and bunching.

There may be an acceptable excuse for running late but running "sharp" or ahead of schedule is strictly contrary to Railway rules and involves disciplinary measures due to the serious effect it has upon regular service.

Your Railway Competes With Many

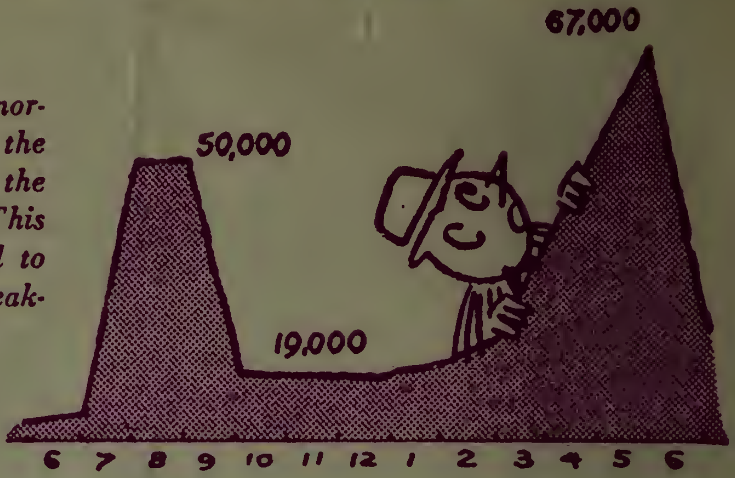
If our busses and streetcars operated on a private right of way (like the Railroads) service of almost clock-like precision could be expected and would be a comparatively easy job to maintain.

Your Railway, however, is but one of the many thousands of users of the city streets and this includes automobiles, taxicabs, delivery vehicles, trucks, etc. The normal flow of traffic rises to tremendous peaks during the morning and evening rush hours. A graphic example of this great surge in passenger volume is shown in the graph following. Additional vehicles of all types are put into operation so that normal service is doubled or trebled.

MUNICIPAL RAILWAY HOURLY PASSENGER VOLUME

For Example:

Seven coaches are normal in service on the No. 31 line during the mid-day period. This number is increased to over 25 to handle peak-hour traffic.



Peak Hour Service Trebled

Total number of vehicles on all lines throughout the city before 6:00 a.m. is about 275. Between 6:00 a.m. and 7:00 a.m., however, this number is increased to 625 to handle the morning rush.

This general picture is equally true of the evening peak period when the 700 vehicles in operation during the afternoon are suddenly jumped to a total Railway strength of 900 streetcars, busses and cable cars!

Because of the large number of vehicles, both public and private, on the streets during these periods, severe traffic congestion is practically unavoidable and at times it is physically impossible to follow the intended scheduled pattern.

Importance Of Our Patrons

Generally speaking we sincerely believe you will find your normal service both regular and dependable. We never like to keep our customers waiting, after all you are the most important people in our business.

And because you are so important we thought that you would be interested in knowing some of the factors beyond our control that may interfere with the smooth, even flow of public transit.

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If you have found this information concerning your transit system interesting may we ask you to pass it on to a friend who might also welcome this explanation of one phase of the operation of the Railway?

Thank you.

Public Utilities Commission

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